

# Rhodora

JOURNAL OF

THE NEW ENGLAND BOTANICAL CLUB

---

Vol. 54

December, 1952

No. 648

---

## THOMAS NUTTALL'S CONTROVERSY WITH ASA GRAY

A. HUNTER DUPREE

PIRATES are colorful people, but their business is stealing. Joseph Ewan's parenthetical comment<sup>1</sup> making Thomas Nuttall the victim of piracy raises a vision of Long John Torrey and Captain Kidd Gray gleefully counting botanical doubloons captured from an innocent traveler. Although the bitter controversy of 1841 between Nuttall and Asa Gray burned out long before the principals died, and although no scientific knowledge about the particular plants involved is to be gained by reopening it, the charge of piracy against Torrey and Gray has real importance. Granting that these two men played a preponderant role in building American scientific institutions in the nineteenth century, the charge implies that coercion and robbery were a part of their scientific practice. Since Torrey and Gray concerned themselves with the ethics and standards of a new profession then in its infancy, was piracy a part of those ethics? Or perhaps was hypocrisy the actual accompaniment of the development of scientific standards in America? To establish the fact that Torrey and Gray stole from Nuttall the fruits of his prodigious labors in the West would have a measureable effect on the answers to these questions.

When Thomas Nuttall returned from his journey to the Pacific coast in 1836, he settled down in Philadelphia to work on his own collections. At about the same time Asa Gray, with time on his hands waiting for the sailing of the United States Exploring Expedition, became a junior partner in John Torrey's great

<sup>1</sup> Joseph Ewan, "Nuttall's Diary of 1810 and Some Inquirendae (Review)," *Rhodora*, LIV (1952), 236.

project for a *Flora of North America*. The New York State Survey and many extraneous professional duties occupying most of Torrey's time meant that progress on the *Flora* depended on Gray's efforts. When its first number appeared in July, 1838, Nuttall had as yet published none of his Western plants, which were signal additions to the botany of the trans-Mississippi region of North America. For Torrey and Gray to bring out their comprehensive *Flora* without considering Nuttall's novelties would have rendered it spectacularly obsolete the day it appeared. On the other hand, for them to wait for Nuttall would have delayed the *Flora* indefinitely if not eternally.

To get around the difficulty, Nuttall sent to Torrey and Gray in New York a set of his plants and a manuscript describing the new genera and species. In addition Torrey and Gray consulted the fuller set of Nuttall's plants in the herbarium of the Academy of Natural Sciences, Philadelphia.<sup>2</sup> The evidence of this arrangement appeared immediately in the *Flora*, for in the first genus treated, *Clematis*, Torrey and Gray not only referred to "Nutt.! mss." for three new species but gave the collector's own descriptions and notes directly. Such quotations continued with great frequency through the first number of the *Flora*. This mode of publication was not in itself piracy. Nuttall received full acknowledgment for both his names and his descriptions. Comprehensive recognition appeared in the preface. Nuttall must have been entirely familiar with the process, for A. P. De Candolle had published his manuscript names of *Umbelliferae* under a similar arrangement in the *Prodromus*, Part IV, in 1830. Had Nuttall objected to Torrey's and Gray's practice, he could have withdrawn his manuscript after the first number of the *Flora*. But the references continue in the second part of volume I, published in October, 1838. Since Gray then went to Europe, the completing parts did not appear until June, 1840, giving Nuttall almost two years to voice his displeasure. Far from this, the collector in Philadelphia continued to send descriptions as he worked on his plants.<sup>3</sup> The complete lack of larceny in the process of publication itself suggests that some other irritant estranged these men who were working in apparent harmony.

<sup>2</sup> John Torrey and Asa Gray, *A Flora of North America* . . . (New York, 1838-43), I, ix-x.

<sup>3</sup> *Ibid.*, I, 671.

Nuttall finally reached the point of publication in his own right when he began to read a paper on his *Compositae* before the American Philosophical Society on October 2, 1840. On December 18, 1840, he finished, the combined paper appearing in the *Transactions*, published the following year.<sup>4</sup> But in November of 1840, between Nuttall's delivery of the two parts, Gray went to Philadelphia "to study the collections there." He, too, was working on the *Compositae* and had a manuscript elaboration of them for the *Flora*. No evidence of coolness at this time appears in Gray's account of his meeting with Nuttall. He looked at the collector's *Compositae*,

none of which had been sent us,—went through his collection at his desire, and pointed out to him at least half a dozen instances in which he was about to publish old genera as new, assisted him heartily and freely in every way, yielding to him freely in all cases in which we had the same plants to describe, although previously elaborated in my manuscript from our own materials.

According to Gray, the part of Nuttall's paper which he had read at the meeting in October had already gone to the printer. This circumstance formed the basis for the younger man's later ire, for when the sheets reached New York early the next year Gray "found that in one or two instances he had entirely taken to himself my remodelling of genera which he had entirely missed, without the slightest word of acknowledgement or reference to me . . ."<sup>5</sup>

Thus the charge which broke the peace was actually that Nuttall was the pirate!

Nuttall had created a new genus, *Heterostephium*, which after Gray's visit he had referred to *Corethrogyne*, DC. He had also placed some species, once separated as a new genus, in *Berlandiera*, DC.<sup>6</sup> Gray "pointed out the inadvertance in a letter to Mr. N. suggesting to him the propriety of making the proper allusion in a note or otherwise in the forthcoming part of his

<sup>4</sup> Thomas Nuttall, "Descriptions of New Species and Genera of Plants in the Natural Order of the *Compositae*. Collected in a tour across the continent to the Pacific, a residence in Oregon, and a visit to the Sandwich Islands and Upper California, during the years 1834 and 1835," American Philosophical Society, *Transactions*, VII (1841), 283-356, 357-453.

<sup>5</sup> Asa Gray, New York, to Sir William J. Hooker, May 20, 1841, MS. copy in Gray Herbarium Library, Harvard University, taken from original at Royal Botanical Gardens, Kew.

<sup>6</sup> Torrey and Gray, *Flora of North America*, II, 97-98, 281.

memoir.”<sup>7</sup> To this Nuttall replied, “I am sorry that your letter came to hand after my paper was printed off and there remained no opportunity of making the acknowledgement you required.”<sup>8</sup> Gray refused to be satisfied, “informing him that if his course was intentional, I should not tamely submit to it . . .”<sup>9</sup>

At the same time another matter was breeding trouble between the two. Gray naturally felt indebted to Sir William Hooker, who was not only giving general encouragement to the *Flora* but was shipping whole sections of his herbarium to New York. In January, 1841, the American described to Hooker some of Nuttall's new *Compositae*, and added that the collector “ought to send all these to you, but his *amor pecunia* is rather strong. I know you would desire to have them, even Nuttallian specimens . . .”<sup>10</sup> These sentiments reached Nuttall promptly, possibly in a letter from Gray himself. In March he sent from Philadelphia to the New Yorker 118 specimens of *Compositae* destined for Hooker, saying that “they have cost a good deal of *money*, much *time*, and considerable *risk* in the procuring, for which, what I set for specimens is not like to remunerate me.” A touch of bitterness appears in his succinct analysis of Western economics.

The expence of conveying things over land, the *whole distance* of the continent, and then shipping them round Cape Horn is a very different affair to the making of collections elsewhere. If a *pint* of New England rum which costs 12 cents, has to be charged 3 *dollars* in the mountains, some idea may be formed of the value of other things dragged on horseback over double such a route.<sup>11</sup>

A month later Nuttall wrote to Gray that “I forgot to mention in my last, that I do not wish to be held up as a huckster to Sir Wm. J. Hooker, and I therefore wish you to send him the specimens in *Compositae* I sent you, as a present from myself.”<sup>12</sup> This Gray immediately did, winning his point at the cost of increased rancor. In the complete collapse of mutual respect, the former intimate collaboration afforded much fuel for mis-

<sup>7</sup> Gray to Hooker, May 20, 1841.

<sup>8</sup> Thomas Nuttall, Philadelphia, to Asa Gray, March 27, 1841. MS. in historic letter file, Gray Herbarium Library.

<sup>9</sup> Gray to Hooker, May 20, 1841.

<sup>10</sup> Asa Gray, New York, to Sir William J. Hooker, January 15, 1841. MS. copy in Gray Herbarium Library.

<sup>11</sup> Nuttall to Gray, March 27, 1841.

<sup>12</sup> Thomas Nuttall, Philadelphia, to Asa Gray, April 23, 1841. MS. in historic letter file, Gray Herbarium Library.

understandings, once dismissed as unimportant but now rekindled.

Nuttall's first reaction was to call for the return of his manuscripts "with the Academy's collection when you send them."<sup>13</sup> He had a good bit to say about *Corethrogyne*, stating

that Mr. Gray assured me one of the species I had collected in California was the plant intended by De Candolle in his prodromus, otherwise (in the absence of a specimen) I should greatly doubt their identity. I had made the remark concerning this plant (of which I had been obliged to form a distinct genus) that it appeared wholly to agree in habit and nearly in character with *Corethrogyne*, but that the receptacle was certainly without paleae.<sup>14</sup>

After further discussion Nuttall reached the point that "I . . . now perceive (when *too late*), what I had suspected, that my genus *Heterostephium* is a good and distinct one, and ought not to have been abandoned, altho' it appears to be almost isomorphous with *Corethrogyne*." Although he never admitted that Gray deserved any credit for suggesting the identity of the genus as a whole, he gave in just perceptibly concerning one of the species, revealing incidentally how closely the two had once worked together. "I am not aware that *Aster flaginifolius* was a suggestion of yours, at the same time I have not the smallest objection to allow it. It was described in Beechy's voyage Suppl. We read it over together. I used my own judgment on the occasion."<sup>15</sup>

Gray had to prod hard to get an answer on *Berlandiera*, "the chief thing in which I felt aggrieved."<sup>16</sup> In spite of his delay, Nuttall's answer here was nearer the question. "In regard to *Berlandiera*, I say that without other means of comparison, I did not suspect that it was the same genus . . . , and this ought to have been mentioned in my paper . . ." thus admitting the need for the acknowledgment that Gray had been seeking. But he went on to say that he had referred the cognate species to a single group "certainly *without any aid* from your mss. *Not a line was*

<sup>13</sup> Nuttall to Gray, March 27, 1841.

<sup>14</sup> Thomas Nuttall, Philadelphia, to Asa Gray, April 7, 1841. MS. in historic letter file, Gray Herbarium Library.

<sup>15</sup> Nuttall to Gray, April 23, 1841.

<sup>16</sup> Asa Gray, New York, to Thomas Nuttall, April 14, 1841. Draft of reply marked "sent April 16" in Gray's handwriting, historic letter file (Nuttall folder), Gray Herbarium Library.

*altered* after seeing or hearing your manuscript."<sup>17</sup> Nuttall evidently to the last thought Gray was charging him with taking descriptions of various details, not realizing that the names themselves of the genera were the points at issue.

Nuttall's essential answer to Gray's charges was not defense but a vigorous counteroffensive. In the first place he charged Gray with not accepting various things in his manuscript. For example Gray had shifted *Cosmidium* from one division to another, had given the name *Tolmeia* to a genus Nuttall had named otherwise, had made a *Ligusticum* from California into the new genus *Deweya*, and had provided many other "invidious examples."<sup>18</sup> This boiled down to the charge that Gray had not in all cases followed Nuttall exactly.

In the second place he made a severe indictment of Gray's scientific courtesy. "I was, I had thought, in consideration of what I had done, *not in the closet* but in the *field*, entitled to expect, the same privilege of consulting Dr. Torrey's herbarium that you have of consulting the Herbarium of the Academy. It is now determined, I find, that I shall be obliged to work in the *dark*, and somebody will then come after and hold up my unavoidable errors and mistakes as a beacon on which to establish something *de novo*."

Finally Nuttall reached the point of complaining about the collaboration itself. "For respecting many of my manuscript names (given in great haste in the herbarium of the Academy) I certainly have no occasion to *thank* you. In regard to the names of things recently introduced into that collection from the West they cannot be taken at all as the names I shall ultimately employ and therefore the quoting of them is to me an essential injury, as it tends to create confusion and error."<sup>19</sup> This charge, which incidentally is inconsistent with the first one claiming neglect, carries at long last the implication of piracy mentioned by Ewan. It is, however, much less timely and explicit than Gray's accusation against Nuttall, and it got a much stronger answer.

Gray dealt with the first charge "*seriatim*" showing in each case that Nuttall's manuscript had been set aside only for

<sup>17</sup> Nuttall to Gray, April 23, 1841.

<sup>18</sup> Nuttall to Gray, April 7, 1841.

<sup>19</sup> *Ibid.*

sufficient reasons, often drawn from material on hand from earlier collectors such as David Douglas. On the second charge Gray had

only to say that neither Dr. Torrey nor myself have ever refused you the privilege of consulting freely our collections, nor have we had the intention of so doing. On the contrary they have always been at your service. The insinuation that *somebody* wishes to oblige you to work in the dark, and then form a reputation for science by holding up your unavoidable errors . . . is as untrue as it is unworthy of you.

Concerning the third charge,

you say you have no occasion to thank me for respecting your mss. names. Certainly not. I do not expect thanks for doing that which is not only mere justice, but is required by the courtesy of science. No botanist, living or dead, has reason to complain of me in this matter. Have Dr. Baldwin's manuscript names been equally respected by all botanists?

Then Gray made a cryptic reference, "Do you remember a genus called *Petalanthera* in Dr. Torrey's herbarium?" To this he added and then struck out the quotation, "'Let the galled jade wince &c.'"<sup>20</sup>

Even if Gray deleted this imagery, Nuttall reacted violently to *Petalanthera*. This plant, collected by Edwin James, Torrey had named in manuscript but had sent to Robert Brown in England before publishing. Brown identified it with *Cevallia*, but in the meantime Nuttall published it<sup>21</sup> under the same name Torrey had given—*Petalanthera*. Nuttall considered Gray's mere mention "a most grave insinuation or charge." To the "enquiry whether I ever saw a genus in Dr. Torrey's Herbarium called *Petalanthera*!" he answered "as before the last tribunal, that *I certainly never did!!!* I never saw the name in any other than my own or the Academy's collection and received from Dr. T. the specimen I had without any attempt at a name of any kind and soon after he had received the specimens from Dr. James." As to the use of the same name, Nuttall claimed that it "is an appropriate one and must have been arrived at independently of each other . . . ," a pure coincidence. Gray's injection of this genus into the controversy did indeed reveal a

<sup>20</sup> Gray to Nuttall, April 14, 1841.

<sup>21</sup> Thomas Nuttall, "Description of Some of the Rarer or Little Known Plants Indigenous to the United States," Academy of Natural Sciences of Philadelphia, *Journal*, VII (1834), 107.

very old fester. Nuttall continued that "you have harbored against me this unjust and injurious as well as *false* suspicion probably for *many* years. It has come out. I am obliged to you for the disclosure *at last!*"<sup>22</sup>

Nuttall's letter of April 23, which contained these remarks, shows many signs that it was written by a man under great tension, and in a postscript he himself recognized this. "If I have used any harsh and improper expressions, I hope you will excuse them, and attribute them to an undue excitement." A passage which he struck out but left still legible reveals much concerning his attitude not only while conducting this controversy but also while he was making up his mind to leave the United States.

From circumstances, over which I have *no control*, I am obliged to use the utmost economy to live. I have sold everything I am able, to keep out of debt, and I therefore, tho' reluctantly, desire Dr. Torrey, to return me the dried plants, sent to him, when done with, as, having given away one set, (to the Academy of Nat. Sciences.) it is as much as I owe to a *country* that never patronised or assisted me in any thing, and to explore which I have sacrificed much property and spent nearly my whole life. On returning these with my manuscripts, I will, if desired, send back 3 or 4 odd numbers of your Flora for which I have now no further use.

Although Gray wrote one more letter,<sup>23</sup> the controversy sputtered to a close, and at the end of the year Nuttall sailed to England to live permanently. Torrey's and Gray's *Flora*, for many reasons entirely unconnected with this controversy, did not progress beyond the *Compositae*. In 1884 Gray wrote that "probably few naturalists have ever excelled Nuttall in aptitude for . . . observations, in quickness of eye, tact in discrimination, and tenacity of memory." But he also said that "there are obvious points of resemblance between the later writings of Nuttall and Rafinesque, which might tempt us to continue the parallel;—but in scientific knowledge and judgment he was always greatly superior to that individual."<sup>24</sup> Complimentary as this was, many naturalists in the 1840's felt that even a remote comparison with Rafinesque was damning. When Nuttall returned to the United States and met Gray again in 1848, they

<sup>22</sup> Nuttall to Gray, April 23, 1841.

<sup>23</sup> Asa Gray, New York, to Thomas Nuttall, June 4, 1841. Draft of reply in historic letter file (Nuttall folder), Gray Herbarium Library.

<sup>24</sup> Asa Gray, "The Longevity of Trees," *North American Review*, LIX (1844), 193.



were at least outwardly cordial.<sup>25</sup> In 1856, while Nuttall was still alive, Gray made a final private statement to Charles Wilkins Short on a controversy now dead for fifteen years.

As to Nuttall, he is a truthful man, no doubt, and an interesting one. If I ever spoke disrespectfully of him (as I may have) I was to blame. His *Genera* was an admirable work for its day, and much the best thing he ever did. His later works and memoirs fell off in character, sound judgement, and conscientiousness—very much indeed, and there are things about them that would tempt one who followed closely after him to compare him with Rafinesque; but it would not be just. If Nuttall had kept up to the promise of *Genera N. Amer. Plants* he would have been the great expounder of American botany.<sup>26</sup>

The inapplicability of such terms as piracy to these two sensitive, upright, and angry gentlemen is clear. Torrey and Gray certainly had a right to publish Nuttall's manuscript names and descriptions, for which they gave full credit. Had they not done so, many more of his Western plants would have remained unpublished. In the taxonomic charges and countercharges the younger man rather more than took care of himself. On the other hand, no one raised on *Two Years before the Mast* can fail to sympathize with Nuttall and to see that he needed help more than refutation. The controversy appears more a result than a cause of some deep and bitter emotional disturbance within him.

Too nice a solicitude for abstract justice in a quarrel long past is both futile and unnecessary. Nevertheless, the historian who sees this controversy from a broader point of view can surmise that the protagonists moved under the impulse of forces they themselves only faintly recognized. Torrey and Gray's *Flora of North America* was a new kind of enterprise on the American scene. It called for the final determination of taxonomic questions to be made in the United States and not left to Europeans. This placed such a heavy burden on the available manpower that a practical separation of duties between the field collector and the herbarium specialist was arising in spite of the wishes of both. Nuttall in the old way was still trying to do both, but he could not bring to his herbarium work the tools

<sup>25</sup> Asa Gray, Cambridge, to George Engelmann, March 15, 1848. Typed copy in the Gray Herbarium Library.

<sup>26</sup> Asa Gray, Cambridge, to C. W. Short, October 10, 1856. W. C. Coker, ed., "Letters from the Collection of Dr. Charles Wilkins Short," Elisha Mitchell Scientific Society, *Journal*, LVII (1941), 157.

which Torrey and Gray had developed. While Nuttall had gone to the ends of the earth, Gray had gone to Europe and had dug to the bottom of many North American botanical problems whose answers lay in European herbaria.

The side issue of plants for Sir William Hooker is indicative of another aspect of Torrey's and Gray's enterprise. They aimed to establish botanical autonomy in the United States by co-operation with Europe, not by competition. Hooker was not only moving over to make room in the upper hierarchy of botany where decisions had real authority but also was giving them active encouragement. Early in 1842 he wrote that "Nuttall ought to place all his western plants in your hands for Dr. Torrey & you to describe & to exercise your own unfettered judgements in the determining of them."<sup>27</sup> Torrey and Gray, earning their authority over the plants of North America by doing work comparable in excellence to the best in Europe, were exceedingly careful to mesh their practices and interpretations with those of men such as Hooker and to be generous to a fault in their dealings with them.

Nuttall's complaints about being "in the dark" and making "unavoidable errors" focus on another institutional change in the structure of America itself. Philadelphia, the metropolis of the colonies and the cultural center of the early republic, found herself outstripped by 1840. The natural sciences had given added luster to Philadelphia in her great days, but like other things they deserted in her relative decline. Nuttall was the last who, like the Bartrams before him, used Philadelphia as a base for the botanical exploration of North America on a continental scale. The immediate future lay with New York and Boston, where Torrey and Gray gathered the tools for greatly accelerated botanical production which could keep up with the fruits of American expansion in the two decades ahead.

When institutions change, those who do not change with them feel the pinch. The mountain men, whom Nuttall saw drinking three-dollar rum in the beaver country, are good examples, highly skilled and specialized, of those passed by in the rapid changes in America in the 1840's. The spread of settlement and the decline of the beaver trade left many of them, although young

<sup>27</sup> Sir William J. Hooker, Kew, to Asa Gray, January 23, 1842. MS. in historic letter file, Gray Herbarium Library.

in years, with their way of life destroyed. Nuttall, whose great glory was to explore the West when it was open only to mountain men, found himself, like them, old before his time in 1841.

---

## TEMPORAL VARIATION

NORMAN C. FASSETT

TAXONOMISTS have learned to watch for several types of intra-specific variation, other than that which involves varieties and subspecies in different geographic regions. Among these are:

1. *Genetic variation*—the individual, or personal, characters of each plant or clone. This was discussed by Dr. Edgar Anderson for *Iris* (1928); clonal characters may easily be observed in such plants as *Podophyllum peltatum*, where each clone has a slightly different leaf pattern, in *Rhus typhina* or *R. glabra* where the general nature of the panicle differs slightly from clone to clone, or even in *Geranium maculatum* where close inspection shows a different cutting on the leaves of each clump.

2. *Variation due to habitat*. This is particularly obvious in certain aquatics; a classic example is in the amphibious *Polygonum*s where the aquatic and terrestrial phases of one clone are so different that they were once described as separate species.

3. *Variation on different parts of the same individual*. Foliage may normally be different, for example, on flowering and sterile branches, between sucker shoots and old stems in *Populus*, between juvenile and mature foliage in *Juniperus* or *Eucalyptus*, or on the upper and lower parts of the stem in *Aster cordifolius* and its relatives. The leaf types on different kinds of shoots and at different levels on the same shoot have been discussed in detail by Dr. C. R. Ball (1943).

Less frequently are most of us in a position to observe what might be called:

4. *Temporal variation*, or variation in homologous parts of the same individual in different years. In the herbarium of the always stimulating Dr. C. C. Deam of Bluffton, Indiana, are two sheets, collected in different years, both from the same branch of an oak tree. The one collected in 1934 is a remarkably good match for Fig. 919 in Gray's Manual, ed. 8, representing *Quercus rubra*. In 1940 the same branch had leaves almost as